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Since the Boston Water and Sewer Commission was created in 1977, it has served its customers through efficient management and effective delivery and maintenance of quality water and wastewater services.

*A. Raymond Tyc,
Chairman of the
Boston Water and
Sewer Commission*

ANNUAL REPORT 1988

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"Since the Boston Water and Sewer Commission was created in 1977, it has served its customers through efficient management and effective delivery and maintenance of quality water and wastewater services," said A. Raymond Tye, chairman of the board which oversees the Boston Water and Sewer Commission.

"Throughout the 1980s, the Commission established itself as a self-sufficient entity," continued Chairman Tye. "This past year, the Commission has undergone a reorganization to better meet the challenges of the 1990s—the cleanup of Boston Harbor and the demand for services created by a vibrant Boston economy."

"The emphasis of the reorganization was to enhance accountability, specifically in the areas of service delivery, finance and management," said Mary Nee, commissioner of the Boston Water and Sewer Commission.

Commissioner Lisa G. Chapnick added, "The Commission will be more responsive in addressing issues that concern our ratepayers, ranging from the financial and environmental impact of the Boston Harbor cleanup to the increased demand for water and sewer services."

Accountability To Customers



Improving the delivery of services and the quality of life for its customers is the primary concern of the Boston Water and Sewer Commission.

The Commission has aggressively improved its water and wastewater systems, components of which are over 130 years old.

An active leak detection program initiated by the Commission in 1978 has been a model for other cities. In 1988 alone, the Commission conducted a survey of 95 percent of its 1182 miles of water main, locating 800 underground leaks. By the end of the year, 72 percent of the leaks had been repaired.

As a result of its leak detection and repair efforts, as well as its metering and pipe replacement programs, the Commission has been able to reduce its water purchases from the Massachusetts Water Resources Authority (MWRA) by 26 percent since 1978. These savings are passed along to its customers.

A new meter reading system was introduced in September 1988. Electronic hand held devices now record readings for approximately 66 percent of the Commission's 87,000 accounts. This provides more accurate readings, giving customers better service by reducing estimated readings.

and billing errors. Accurate meter readings provide a precise reflection of water sales, reduce billing adjustments and encourage conservation.

The Boston Water and Sewer Commission believes in being part of the neighborhoods it serves. At no additional cost to the Commission, representatives hold office hours in social service agencies in 15 convenient neighborhood locations throughout Boston. A customer service representative is available to accept payments, listen to service related complaints and process elderly and disabled discounts.

The Commission has increased the discount offered to qualified homeowners 65 years of age and older and homeowners who are fully disabled. Eligible homeowners can now save 25 percent on their water bill.

Community outreach makes the Commission more accessible to people. As the Commission's rates continue to escalate, it is important to provide quality service to its customers. The goal of the Commission is to provide this service, whether to individuals or to the largest commercial/industrial users, at the lowest possible cost.





Boston Harbor Cleanup

The Boston Water and Sewer Commission is participating with the MWRA, the Department of Environmental Quality Engineering and the Environmental Protection Agency in the cleanup of Boston Harbor.

The Commission significantly contributes in efforts to end the pollution of Boston Harbor through the ongoing maintenance and improvement of its sewer system.

A major achievement was the completion in 1988 of a multiphased project which included construction of the New East Side Interceptor and the New Boston Main Interceptor. The \$60 million project, which began in 1982, extends along the waterfront from Rowes Wharf to the MWRA headworks at Columbus Park.

Finished one year ahead of schedule and under budget, the new interceptors provide added capacity for downtown development. Completion of the project vir-



tually eliminates dry weather overflows into the inner harbor. The new interceptors are prepared to handle flows into the 21st century, ensuring improvement in the water quality of Boston Harbor.

The Commission is committed to the challenge of modernizing a sewer system that is over 100 years old. In addition to installing new interceptors, these efforts include cleaning existing sewer interceptors and separating combined sewers into sanitary and storm systems. These programs increase capacity to the Deer Island treatment plant, reducing overflows into the Boston Harbor during storm events.

In late 1988, the Commission contracted for the replacement of 10 defective tidegates, eliminating the inflow of tidewater into the sewer system during high tide. These tidegates prevent the unnecessary treatment of extraneous flows and allow increased capacity for treatment of sewage at Deer Island.

The Commission has always conducted its construction projects in a cost-effective manner by working cooperatively with other city, state and regional agencies. The Commission's ongoing evaluation and maintenance of both the water and sewer systems continues to protect the integrity of the system and the Commission's capital investment.



Commission Goals

FINANCIAL ACCOUNTABILITY

Continued improvements in financial management capabilities resulted in the Boston Water and Sewer Commission being upgraded from A- to A by Moody's Investor Service in April 1988. Taking advantage of favorable market conditions, the Commission completed a refunding bond issue which will result in present value interest cost savings of \$3 million. These savings are directly passed along to ratepayers.

The Commission restructured the entire budgeting, financial planning and rate setting process. Development of the capital improvement program is now more closely integrated with the rate setting and budget cycle. The budget and planning process weighs the priorities of the Commission in allocating limited resources for operations and capital improvements. Budget requests must be supported by measurable performance objectives related to improved service delivery.

A review of special charges, such as permits, inspections and meter testing, took place to determine the full cost of providing services. Fees were adjusted to more accurately reflect these costs.

While the Commission implemented a 28 percent rate increase to its customers in April 1988, much of the increase was due to increased wholesale water and sewerage treatment services provided by the MWRA. As its biggest customer, the Commission shares the expense of upgrading the MWRA's regional water delivery and wastewater treatment systems. However, the success of the Commission's leak detection program together with close analysis of data used to determine MWRA sewer charges have resulted in overall cost savings of approximately \$2.5 million.

MANAGEMENT ACCOUNTABILITY: Reorganization/Revitalization

"We have created a strong management team vital to the proactive development of the Commission," said David L. Conlon, acting executive director. "Results, performance, accountability and innovation will be the forces driving the Commission in the 1990s."

Over the past year, the Commission consolidated functions for better operating efficiency, developed clearer lines of accountability and initiated Commission-wide performance standards. The position of planning and program management director was created to integrate policy and strategic planning within the Commission.

The administration and engineering departments were reorganized, and the operations department created. The treasurer/chief financial officer consolidated financial activities, while the director of public affairs continued to emphasize community outreach.

In addition to creating a management team that was more responsive to the customer and to community issues, the Commission reaffirmed its commitment to reflect the population that it serves. The position of affirmative action manager was created and a comprehensive affirmative action program is now in place.

"One of our goals is to create a better working relationship among the community, our field operations and management. For many of our customers, our field operations represents their first contact with the Commission," said Mr. Tye. "We encourage pride in our work throughout all levels of the Boston Water and Sewer Commission to better serve our customers."



Independent Auditors' Report

Boston Water and Sewer Commission:

We have audited the accompanying balance sheets of the Boston Water and Sewer Commission as of December 31, 1988 and 1987 (Restated) and the related statements of operations, of Commission equity and of cash flows for the years then ended. These financial statements are the responsibility of the Commission's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the financial position of the Commission at December 31, 1988 and 1987 and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

As discussed in Note 9 to the financial statements, the Commission has restated its previously issued 1987 financial statements.

DeLoitte Haskins & Sells

DELOITTE HASKINS & SELLS
Boston, Massachusetts
April 14, 1989



BALANCE SHEETS
December 31, 1988 and 1987 (Restated)

ASSETS	<u>Notes</u>	1988	1987
CURRENT ASSETS:			
Cash and cash equivalents	1, 4, 7	\$ 36,932,369	\$ 15,369,792
Accounts receivable, customers less allowances of \$10,174,803 in 1988 and \$8,160,000 in 1987		36,812,209	27,327,027
Earned revenues in excess of billings less allowances of \$641,623 in 1988 and \$639,000 in 1987	1	7,134,473	7,300,955
Accounts receivable:			
Federal and state construction grants		11,784,224	19,299,357
City of Boston—net	6	1,585,750	2,390,799
Prepaid expenses		1,073,979	721,792
Deferred charges	1, 2, 7, 9	10,427,415	6,835,730
Total current assets		105,750,419	79,245,452
TRUSTEED ASSETS	1, 4, 7	86,008,860	100,426,523
NONTRUSTEED ASSETS	1, 4	2,614,295	11,328,676
PROPERTY, PLANT AND EQUIPMENT — Net	1, 3, 10	228,925,916	208,654,029
DEFERRED CHARGES	1, 2, 7, 9	29,486,521	19,282,240
DEBT ISSUE COSTS, LESS AMORTIZATION	1	3,989,837	4,606,390
TOTAL		<u>\$456,775,848</u>	<u>\$423,543,310</u>

See notes to financial statements

LIABILITIES AND COMMISSION EQUITY	<u>Notes</u>	<u>1988</u>	<u>1987</u>
CURRENT LIABILITIES:			
Payable from current assets:			
Accounts payable		\$ 5,581,059	\$ 5,030,822
Other accrued liabilities	7	<u>3,763,845</u>	<u>4,054,777</u>
Total		<u>9,344,904</u>	<u>9,085,599</u>
Payable from restricted asset funds:			
Massachusetts Water Resources Authority assessment for water and sewerage	9	2,495,227	
City bonds	4	<u>630,174</u>	<u>689,436</u>
Total		<u>3,125,401</u>	<u>689,436</u>
General revenue bonds	4	<u>7,386,749</u>	<u>7,152,511</u>
Deferred credits	1, 2	<u>30,752,850</u>	<u>18,604,763</u>
Total current liabilities		<u>50,609,904</u>	<u>35,532,309</u>
OTHER LIABILITIES:			
City bonds	4	2,295,000	2,885,000
General revenue bonds	4	<u>204,632,803</u>	<u>193,461,826</u>
Deferred credits	1, 2, 9	<u>97,342,356</u>	<u>97,682,944</u>
Other liabilities		<u>1,674,126</u>	<u>2,354,328</u>
Total other liabilities		<u>305,944,285</u>	<u>296,384,098</u>
COMMISSION EQUITY:			
Contributed capital	1	105,768,355	97,173,599
Accumulated deficit		<u>(5,546,696)</u>	<u>(5,546,696)</u>
Total commission equity		<u>100,221,659</u>	<u>91,626,903</u>
TOTAL		<u>\$456,775,848</u>	<u>\$423,543,310</u>

STATEMENTS OF OPERATIONS
For the years ended December 31, 1988 and 1987 (Restated)

	<i>Total</i>		<i>Water</i>		<i>Sewer</i>	
	<i>1988</i>	<i>1987</i>	<i>1988</i>	<i>1987</i>	<i>1988</i>	<i>1987</i>
OPERATING REVENUES:						
Water and sewer usage	\$90,734,764	\$70,103,869	\$44,560,550	\$32,553,268	\$46,174,214	\$37,550,601
Fire pipe	1,378,635	1,021,521	1,378,635	1,021,521		
Other	813,539	1,127,391	382,363	515,218	431,176	612,173
Total operating revenues	92,926,938	72,252,781	46,321,548	34,090,007	46,605,390	38,162,774
OPERATING EXPENSES:						
Operations	61,353,142	49,595,870	27,832,594	22,671,027	33,520,548	26,924,843
Engineering and administrative	14,409,642	12,616,729	6,585,206	5,765,845	7,824,436	6,850,884
Maintenance	4,575,196	4,422,268	2,726,623	2,539,977	1,848,573	1,882,291
Depreciation	3,901,230	3,181,591	1,782,862	1,453,987	2,118,368	1,727,604
Total operating expenses	84,239,210	69,816,458	38,927,285	32,430,836	45,311,925	37,385,622
TOTAL OPERATING INCOME	8,687,728	2,436,323	\$ 7,394,263	\$ 1,659,171	\$ 1,293,465	\$ 777,152
OTHER INCOME (EXPENSE):						
Interest income	6,503,666	7,716,628				
Interest expense	(15,642,921)	(15,568,111)				
LOSS FROM CURRENT OPERATIONS (Note 1)	(451,527)	(5,415,160)				
PRIOR YEAR RATE SURPLUS RECOGNIZED IN CURRENT YEAR	3,448,091	8,863,251				
CURRENT YEAR RATE SURPLUS DEFERRED TO SUBSEQUENT YEAR (Note 1)	(2,996,564)	(3,448,091)				
NET INCOME	\$ -0-	\$ -0-				

See notes to financial statements

STATEMENTS OF COMMISSION EQUITY
For the years ended December 31, 1988 and 1987 (Restated)

	<i>Contributed Capital</i>	<i>Accumulated Deficit</i>	<i>Total Commission Equity</i>
Balance, January 1, 1987	\$ 87,091,777	\$(5,546,696)	\$ 81,545,081
Contributions in aid of construction	10,707,286		10,707,286
Depreciation of related property	(625,464)		(625,464)
Balance, December 31, 1987	97,173,599	(5,546,696)	91,626,903
Contributions in aid of construction	9,373,194		9,373,194
Depreciation of related property	(778,438)		(778,438)
Balance, December 31, 1988	<u>\$105,768,355</u>	<u>\$(5,546,696)</u>	<u>\$100,221,659</u>

See notes to financial statements.

STATEMENTS OF CASH FLOWS
For the years ended December 31, 1988 and 1987 (Restated)

	<u>Notes</u>	<u>1988</u>	<u>1987</u>
OPERATING ACTIVITIES:			
Net income		\$ -0-	\$ -0-
Adjustments to reconcile net income to net cash:			
Depreciation and amortization		5,453,874	3,677,254
Loss on disposals of property, plant and equipment		100,346	
Change in assets and liabilities:			
Accounts receivable—net		420,750	647,968
Earned revenues in excess of billings—net		166,482	(2,772,284)
Deferred charges		(13,795,966)	2,038,076
Accounts payable, assessments, accrued liabilities and other		11,914,179	(2,324,078)
Deferred credits		11,807,499	7,343,692
Total		<u>16,067,164</u>	<u>8,610,628</u>
FINANCING ACTIVITIES:			
Proceeds of debt issuance		54,290,112	
Payment for defeasance of bond principal and interest		(51,498,254)	
Payment of debt issuance costs		(1,071,345)	
Payment of principal on bonds		(2,900,000)	(2,850,000)
Proceeds of contributions in aid of construction—net		8,594,756	10,081,822
Total		<u>7,415,269</u>	<u>7,231,822</u>
INVESTING ACTIVITIES:			
Purchase of property, plant and equipment		(25,051,900)	(30,769,925)
Proceeds from investment maturities and sales—net		23,132,044	13,448,291
Total		<u>(1,919,856)</u>	<u>(17,321,634)</u>
CASH AND CASH EQUIVALENTS:			
Increase (decrease) during year		21,562,577	(1,479,184)
Balance, beginning of year		<u>15,369,792</u>	<u>16,848,976</u>
Balance, end of year		<u>\$36,932,369</u>	<u>\$15,369,792</u>
YEAR-END BALANCES COMPRISED OF:			
Cash		199,636	241,950
Current portion:			
Trusted assets	1, 4, 7	13,925,770	10,602,991
Nontrusted assets	1, 4	<u>22,806,963</u>	<u>4,524,851</u>
Total cash and cash equivalents		<u>\$36,932,369</u>	<u>\$15,369,792</u>
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid during the year for interest (net of amount capitalized)		<u>\$15,682,944</u>	<u>\$17,072,171</u>

Notes to Financial Statements

1. Organization, Basis of Presentation and Summary of Significant Accounting Principles

The Boston Water and Sewer Commission (the "Commission") has the responsibility to provide water and wastewater services on a fair and equitable basis in the City of Boston (the "City") as required under the Boston Water and Sewer Reorganization Act of 1977 (the "Enabling Act").

Under the Enabling Act, the Commission is required to maintain and present its financial statements in accordance with generally accepted accounting principles ("GAAP"). Also, the Commission has adopted a rate setting process which recognizes certain costs in periods other than when the costs are incurred. This is generally accepted as appropriate regulatory practice.

To accommodate this rate setting process, the Commission follows the accounting standards set forth under the Financial Accounting Standards Board Statement No. 71 ("FAS-71"), "Accounting for the Effects of Certain Types of Regulation." FAS-71 requires that under regulation a) revenues provided for future allowable costs are deferred until the costs are actually incurred (deferred credits); b) allowable incurred costs are capitalized if future recovery is assured (deferred charges).

The following is a reconciliation outlining the effects of FAS-71 on the statements of operations for the years ended December 31, 1988 and 1987:

	<u>1988</u>	<u>1987 (Restated)</u>
Income prior to deferrals	\$7,439,775	\$ 6,921,150
Revenues and expenses deferred in accordance with FAS-71:		
Deferred revenues	(8,669,739)	(12,546,479)
Deferred expenses	<u>778,437</u>	<u>210,169</u>
Loss from current operations	<u><u>\$ (451,527)</u></u>	<u><u>\$ (5,415,160)</u></u>

The Enabling Act requires that any net surplus or deficit, as defined by the rate setting process, must either be returned to the City or applied to offset water and sewer rates for the following year. The Commission has applied \$2,996,564, and \$3,448,091 for the years ended December 31, 1988 and 1987, respectively, to offset rates in the respective subsequent years.

REVENUES

Water and sewerage fees are billed to users of the systems on a quarterly cycle basis. Revenues are accrued for periods between the termination of billings for the various cycles and the end of the year.

TRUSTED AND NONTRUSTED ASSETS

These assets, consisting of direct and unconditionally guaranteed short-term obligations of the U.S. Government; repurchase agreements and money market units secured by government securities, are stated at cost plus accrued interest (approximating market).

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is stated at cost. Depreciation is provided on the straight-line method based on the estimated useful lives of the various classes of assets. Maintenance and repairs are charged to expense as incurred. Major renewals or betterments are capitalized and depreciated over their estimated useful lives.

Contributions received in aid of specific construction projects are considered contributed capital and are included in Commission equity. Accordingly, depreciation of the related property is charged directly to Commission equity and is not included in the accompanying statements of operations.

The ranges of estimated useful lives used in computing depreciation are as follows:

	<i>Years</i>
Water:	
Works	60 to 100
Meters and hydrants	10 to 40
Sewerage:	
Works	40 to 75
Pumping station	35
Other	3 to 15

The Commission capitalizes interest costs related to construction of assets for its own use. Interest totaling approximately \$660,000 and \$1,258,000 was capitalized for the years ended December 31, 1988 and 1987 respectively.

STATEMENT OF CASH FLOWS

In 1988, the Commission adopted Statement of Financial Accounting Standards No. 95, "Statement of Cash Flows." Accordingly, the accompanying financial statements include statements of cash flows replacing the statements of changes in financial position presented in prior years. The 1987 financial statements have been restated to conform with the 1988 presentation.

The Commission considers all highly liquid, short-term cash investments to be cash equivalents.

BOND ISSUE COSTS

Expenses related to the issuance of bonds are amortized on a weighted-average basis over the life of the bonds.

2. Deferred Charges and Credits

The following is a summarization of the major components of deferred charges and credits included in the accompanying balance sheet:

	1987	
	1988	(Restated)
	(000's omitted)	
Deferred charges:		
Provision for pension settlement (see Note 7)	\$ 16,933	\$ 17,111
Loss on debt defeasance	11,069	
Provision for litigation claims and other accruals	2,732	2,675
Provision for adjustments	743	1,485
Excess of amounts accrued over cash payments—bond interest	8,437	4,848
Total deferred charges	<u>\$ 39,914</u>	<u>\$ 26,119</u>
Current deferred charges	\$ 10,427	\$ 6,836
Noncurrent deferred charges	<u>29,487</u>	<u>19,283</u>
Total	<u>\$ 39,914</u>	<u>\$ 26,119</u>
Deferred credits:		
Capital improvement reimbursements	\$ 55,308	\$ 57,897
Principal payments on long-term debt	6,160	4,573
Allowance for slow collection	8,282	8,282
Working capital at inception of Commission	28,986	28,986
Provision for additional working capital	10,159	
Other	<u>19,200</u>	<u>16,550</u>
Total deferred credits	<u>\$128,095</u>	<u>\$116,288</u>
Current deferred credits	\$ 30,753	\$ 18,605
Noncurrent deferred credits	<u>97,342</u>	<u>97,683</u>
Total	<u>\$128,095</u>	<u>\$116,288</u>

3. Property, Plant and Equipment

The cost of water and sewerage plant and equipment in service and related accumulated depreciation at December 31, 1988 and 1987 are summarized as follows:

	1988	1987
Water:		
Works	\$ 83,217,000	\$ 76,078,487
Meters and hydrants	<u>9,559,755</u>	<u>8,926,947</u>
Total water	<u>92,776,755</u>	<u>85,005,434</u>
Sewerage:		
Land		195,482
Works	132,419,951	77,030,797
Pumping station	<u>6,781,316</u>	<u>6,781,316</u>
Total sewerage	<u>139,201,267</u>	<u>84,007,595</u>
Other	<u>10,017,442</u>	<u>8,541,307</u>
Total	<u>241,995,464</u>	<u>177,554,336</u>
Less accumulated depreciation	<u>29,789,897</u>	<u>25,372,933</u>
Total	<u>212,205,567</u>	<u>152,181,403</u>
Construction in progress	<u>16,720,349</u>	<u>56,472,626</u>
Total	<u>\$228,925,916</u>	<u>\$208,654,029</u>

4. Bonds Payable

Outstanding bonds payable including accrued interest, at December 31, 1988 and 1987 were as follows:

	1988	1987
Revenue Bonds:		
1984 Series A, bearing interest at rates ranging from 8.25% to 10.5% with maturity dates ranging from January 1, 1989 to January 1, 2011	\$ 25,048,342	\$ 67,495,121
1985 Series A, bearing a variable interest rate (7.25% at December 31, 1988), maturing in two equal amounts on November 1, 2014 and 2015 and requiring annual sinking fund contributions through 2014	50,411,868	51,170,192
1986 Series A, bearing interest at rates ranging from 5.9% to 7.875% with maturity dates ranging from November 1, 1989 to 2015	81,131,143	81,949,024
1988 Series A, bearing interest at rates ranging from 6.0% to 7.4% with maturity dates ranging from November 1, 1989 to 2008	55,428,199	
City Bonds, bearing interest at rates ranging from 5.1% to 9.5% with maturity dates ranging from December 1989 to December 1999	2,925,174	3,574,436
Total bonds outstanding	214,944,726	204,188,773
Less current portion due within one year including accrued interest	<u>8,016,923</u>	<u>7,841,947</u>
Portion due after one year, net of unamortized original issue discount	<u>\$206,927,803</u>	<u>\$196,346,826</u>

The Resolution Establishing Issue of Revenue Bonds adopted by the Commission on December 6, 1984 places certain restrictions on the Commission's operations. It requires that rates, charges and fees be set at a level sufficient to meet a net revenue test on an annual basis and requires that all revenues, as defined, be deposited in a Revenue Fund maintained by a fiscal agent. Amounts held in the Revenue Fund are to be disbursed to and withdrawn from other funds provided for in the Resolution. The Resolution provides that all excess cash be held in the Revenue Fund until the last business day of the fiscal year. At that time, if certain covenants are met, the Commission has the option to remove any excess cash from the Revenue Fund and place such cash in a fund not restricted by the Resolution.

In compliance with the Resolution, the Commission has established both trusteed and nontrusteed funds with assets, principally short-term securities, which are restricted for payment of specified liabilities. The Commission has options for early redemption of revenue bonds starting in 1995 at prices ranging from 103 to 100% of face value.

REVENUE BONDS

The 1984 Series A Bonds were issued in order to advance refund a series of 1980 System Revenue Bonds. Under the Refunding Trust Agreement, the 1980 Bondholders have no right, title, interest or liens in any other funds, real or personal property or assets of the Commission other than the amounts held under the Refunding Trust Agreement and pledged for their benefit thereunder.

The 1985 Series A Bonds were issued to provide funds for projects under the Commission's ongoing capital improvement programs and other capital and operating needs.

In August of 1986, the Commission issued 1986 Series A General Revenue Bonds (1986 Bonds). This issue was structured as a rolling cross-over refunding and new money issue. The 1986 bonds provide funds for the Commission's ongoing capital improvement programs and other capital and operating needs. In addition, a portion of the proceeds of the 1986 bonds were deposited to the 1986 Series A Escrow Account to provide for the principal payments of the 1985 Series A Bonds and the interest payments of the 1986 bonds as they come due. Thus, the Commission is allowed to pay the low short-term interest rates provided under the 1985 bonds and has secured a guaranteed redemption for the 1985 bonds.

In December of 1988, the Commission issued 1988 Series A bonds to provide for the defeasance of a portion of the Commission's General Revenue Bonds 1984 Series A, to provide supplemental funding for the Operating Reserve Fund and to pay costs of issuance. Under the 1988 Refunding Trust Agreement the Commission deposited sufficient funds with the 1984 Bond Trustee to pay when due, the principal and interest on the refunded bonds until the first call date, January 1, 1995. As a result, the refunded bonds are no longer outstanding under the Commission's Resolution.

CITY BONDS

At the time of its creation, the Commission assumed general obligation certificates of indebtedness of the City (City Bonds) pertaining to the water and sewerage works systems. Payments for principal and interest are made directly to the City in accordance with the original maturity and interest schedule.

Aggregate bond maturity and sinking fund requirements of the Revenue bonds and City bonds at December 31, 1988 are as follows:

<u>Year</u>	<u>Total</u>
1989	\$ 3,115,000
1990	3,780,000
1991	3,805,000
1992	4,060,000
1993	4,230,000
Thereafter	<u>197,670,000</u>
Subtotal	216,660,000
Accrued interest	4,901,924
Unamortized debt discount	(6,617,198)
Total bonds payable	<u>\$214,944,726</u>

5. Massachusetts Water Resources Authority

The Massachusetts Water Resources Authority (the Authority) provides all the Commission's water and sewer treatment requirements and assesses the Commission for its actual operating and capital expenses. Payments to the Authority are due in four installments in March, May, September and November. Interest is not charged on the outstanding balance. Charges and assessments for 1988 and 1987 are as follows:

	<u>1988</u>	<u>1987 (Restated)</u>
Assessments allocated on water usage	\$18,415,728	\$14,951,135
Assessments allocated on sewer usage	24,778,849	19,413,527
Total	<u>\$43,194,577</u>	<u>\$34,364,662</u>

During 1988 and 1987, approximately 67% of water received from the Authority was billable to customers. Since its inception, the Commission has increased the percentage of billable water from 52% in 1977 to the current level of 67% in 1988 and is continuing to take steps to improve the amount of water billable, including replacement of old and defective meters and a comprehensive leak detection and repair program.

6. Transactions with the City of Boston

The Commission's ongoing program to meter City facilities has resulted in billings to nine City departments based on actual consumption of \$1,249,000 and \$1,090,000 in the 1988 period and 1987, respectively. The remaining four City departments were billed based on estimated consumption for \$1,564,000 and \$1,319,000 during the 1988 period and 1987, respectively.

The City provides services to the Commission, including paving and facilities rental. Operating costs billed by the City were \$520,000 and \$463,000 during 1988 and 1987 respectively. Capital costs billed by the City were \$361,000 and \$263,000 during the 1988 period and 1987, respectively.

7. Retirement Benefits

The Commission provides retirement benefits to substantially all of its employees through a pension trust fund (trust fund) and the State-Boston Retirement System (Boston System). During 1986, a dispute concerning the Commission's past and future obligations to all Commission employees covered by the Boston System was settled, resulting in a payment of \$19,100,000 to the Boston System. This payment, funded primarily through 1985 and 1986 bond proceeds, was recorded as a deferred charge to be recovered through future rates.

As part of the settlement with the Boston System, the Commission annually reimburses the City for the Commission's share of pension benefits paid to Commission employees. The Commission's share is based upon the proportion of each employee's total years of creditable service that were spent with the Commission. Employees become 100% vested after 10 years of creditable service as defined by Chapter 32 of the Massachusetts General Laws.

The Commission's covered payroll in 1988 was \$13,570,544. Total payroll for all Commission employees was \$15,085,956. As of December 31, 1988 there were 98 retired and inactive employees, 153 vested active employees and 365 nonvested active employees. Employee contributions are defined under M.G.L. c. 32. For the year ended December 31, 1988 total employee contributions were \$863,522 or 6.36% of covered payroll.

As required by the Commission's Enabling Act employee pension contributions are transferred to the Boston System and are either returned to employees upon termination or for vested employees are used to defray a portion of the total retirement benefit. The Commission's policy is to make additional contributions to the pension trust fund based upon the actuarially determined cost of future benefits net of employee contributions.

The fair market value of trust fund net assets available for benefits was \$14,095,301 and \$11,442,000 at December 31, 1988 and 1987 respectively. Trust fund assets at December 31, 1988 consisted of \$4,146,601 in U.S. Government securities, \$7,213,562 in stocks and convertible securities and \$2,602,612 in cash and cash equivalents.

Total unfunded pension benefit obligation (assets in excess of pension benefit obligation) applicable to the Commission's employees was \$(5,453,000) on December 31, 1988 determined as follows:

Pension Benefit Obligation:

Retirees and beneficiaries currently receiving benefits	\$ 1,685,000
Current Employees:	
Employer-financed vested	2,790,000
Employer-financed nonvested	<u>3,954,000</u>
Total Pension Benefit Obligation	\$ 8,429,000
Net assets available for benefits	<u>13,882,000</u>
Assets in excess of Pension Benefit Obligation	<u>\$(5,453,000)</u>

The amount shown as the Pension Benefit Obligation is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increase, estimated to be payable in the future as a result of employees service to date. The measure is intended to help users assess the funding status of the system on a going concern basis, assess progress made in accumulating sufficient assets to pay benefits when due and make comparisons among systems. The measure is independent of the actuarial funding method used to determine contributions to the pension trust fund.

The Pension Benefit obligation was computed as part of an actuarial valuation performed as of January 1, 1989. Significant actuarial assumptions used to calculate the pension benefit obligations include a rate of return on investment of present and future assets of 9% a year compounded annually and projected salary increases of 7% a year, compounded annually.

The Commission's funding policy has been to provide for quarterly employer contributions to the trust fund based upon an actuarially determined rate using the aggregate actuarial cost method. For the year ended December 31, 1988 the Commission's contributions totaled \$916,012 or 6.75% of the covered payroll. A new actuarial valuation is currently underway which will reassess the Commission's contribution rate. Historical information on the Commission's pension plan is not available.

8. Deposits and Investments

The Commission maintains certain accounts and funds in accordance with its General and Supplemental Bond Resolutions. All deposits and withdrawals to and from these accounts, as well as investment of the funds, are governed by the Resolutions. With the exception of the Operating and Maintenance Fund, the Project Funds and the Insurance Reserve, all funds of the Commission are administered by the Trustee as specified in the Resolution.

Trusted and nontrusted deposits and investments of the Commission at December 31, 1988 were as follows:

	Trusted	Nontrusted
Demand Deposits and Cash	\$ 2,648,677	\$ 7,122,803
Interest Bearing Deposits	28,170,951	11,698,218
Money Market Accounts	4,515,381	2,025,688
Corporate Securities	+4,572,944	
U.S. Government Securities	<u>20,026,677</u>	<u>4,574,549</u>
Total	<u>99,934,630</u>	<u>25,421,258</u>
Unrestricted		\$4,031,955
Restricted	<u>\$99,934,630</u>	<u>21,389,303</u>
Total	<u>\$99,934,630</u>	<u>\$25,421,258</u>

The Commission maintains deposits at several financial institutions, providing a total of \$400,000 in Federal Depository Insurance (FDIC). At December 31, 1988, nontrusted deposits and investments of the Commission include a \$500,000 repurchase agreement held in the Commission's name at a bank.

9. Restatement

The Commission has restated its 1987 financial statements to reflect changes in its accounting for the Massachusetts Water Resources Authority (MWRA) assessments from those utilized in its previously issued financial statements; namely, its liability recognition methods for recording MWRA assessments due in future periods and the related effects of this change on deferred charges and deferred credits accounted for under FAS-71 (See Note 1).

The following is a summary of the financial statement amounts which were affected by the restatement:

	<u>Previously Reported</u>	<u>As Restated</u>
Deferred Charges:		
Current	\$32,563,431	\$ 6,835,730
Non Current	35,958,127	19,282,240
Payable for MWRA Assessment:		
Current	42,322,893	
Non Current	29,066,270	
Deferred Credits:		
Current	18,604,763	18,604,763
Non Current	68,697,369	97,682,944

NOTE 1 TO FINANCIAL STATEMENTS:

The following is a reconciliation outlining the effects of FAS-71 on the statement of operations for the year ended December 31, 1987:

	<u>Previously Reported</u>	<u>As Restated</u>
Income (loss) prior to deferrals		
Revenues and expenses	\$ (4,770,020)	\$ 6,921,150
deferred in accordance with FAS-71:		
Deferred revenues	(12,546,479)	(12,546,479)
Deferred expenses	11,901,339	210,169
Loss from current operations	<u>\$ (5,415,160)</u>	<u>\$ (5,415,160)</u>

10. Commitments

During 1987, the Commission moved its administrative offices. The lease provides for an initial term of five years with two options to extend the lease for additional five-year terms. The basic rent will include an allocation for building operating costs and is subject to an escalation clause subject to certain limitations. In 1988 the Commission entered into an additional three-year lease of a vehicle maintenance facility. Total rent expense charged to operations amount to \$1,025,000 and \$820,000 for the years ended December 31, 1988 and 1987, respectively.

A major capital improvement program is currently in progress. As part of this program, the Commission has entered into a number of contracts for the design and construction of its facilities. Commitments under these contracts aggregate approximately \$33.6 million at December 31, 1988. Capital improvements, primarily related to water and wastewater system projects with an emphasis on the clean-up of the Boston Harbor area, are expected to aggregate approximately \$145 million for 1987 through 1991. Of this amount, approximately \$109 million represents extension and improvement projects and \$36 million represents renewal and replacement projects. Prior to 1988, the Commission funded renewal and replacement projects through current revenues. During 1988, the Commission adopted a uniform policy of funding all capital improvement projects (both extension and improvements and renewal and replacement projects) through Commission revenue bonds or federal and state grants. The effect of this change is to reduce the Commission's current operating expenses by \$5,627,000 in the 1988 period.

11. Contingencies

The Commission is involved in ordinary and routine litigation incidental to its operations. Management believes that the resolution of these matters will not materially affect the financial position of the Commission.

The Commission has received federal and state grants for specific purposes that are subject to review and audit by the grantor agencies. Such audits could lead to requests for reimbursement to the grantor agency for expenditures disallowed under the terms of the grant. The Commission believes such disallowance, if any, will not be significant.

The Commission is involved as a defendant in litigation regarding the pollution of Boston Harbor. Management believes that, except for increases in future MWRA assessments incidental to the litigation, the Commission's extensive capital improvement program (see Note 10) addresses possible actions that the Commission may be required to undertake in connection with this litigation.



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